SEQUENCE LISTING

<110> SARCABAL, PATRICIA
CROUX, CHRISTIAN
SOUCAILLE, PHILIPPE

<120> METHOD FOR PREPARING 1,3-PROPANEDIOL BY A RECOMBINANT
MICRO-ORGANISM IN THE ABSENCE OF COENZYME B12 OR ONE OF
ITS PRECURSORS

<130> CHEP:004US

<140> 10/043,639
<141> 2002-01-09

<150> PCT/FR00/01981
<151> 2000-07-07

<150> FR 99/08939
<151> 1999-07-09

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<170> PatentIn Ver. 2.1

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<213> Clostridium butyricum

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Arg Asp Gln Glu Leu Ile Val Gly Ser Leu Thr Lys Glu Pro Arg Ser
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Ser Gln Val Phe Pro Glu Phe Ser Asn Lys Trp Leu Gln Asp Glu Leu
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Ser Lys Glu Lys Leu Lys Asp Val Phe Glu Tyr Trp Asn Gly Lys Thr
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Ala Pro Leu Pro Phe Leu Ser Ser Met Val Asp Asn Cys Ile Gly Lys
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Gly Lys Ser Leu Gln Asp Gly Gly Ala Glu Tyr Asn Phe Ser Gly Pro
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Gln Gly Val Gly Val Ala Asn Ile Gly Asp Ser Leu Val Ala Val Lys
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Thr Leu Asn Asn Asp Phe Lys Asn Ser Glu Glu Ile Gln Ala Leu Leu
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Asn Val Tyr Phe Gly Ser Leu Thr Gly Ala Thr Pro Asp Gly Arg Lys
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Ser Gly Gln Pro Leu Ala Asp Gly Val Ser Pro Ser Arg Gly Cys Asp
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Val Ser Gly Pro Thr Ala Ala Cys Asn Ser Val Ser Lys Leu Asp His
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Phe Ile Ala Ser Asn Gly Thr Leu Phe Asn Gln Lys Phe His Pro Ser
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Ala Leu Lys Gly Asp Asn Gly Leu Met Asn Leu Ser Ser Leu Ile Arg
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Ser Tyr Phe Asp Gln Lys Gly Phe His Val Gln Phe Asn Val Ile Asp
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Lys Lys Ile Leu Leu Ala Ala Gln Lys Asn Pro Glu Lys Tyr Gln Asp
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<213> Clostridium butyricum

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Ser Met Ser Cys Leu Trp Cys Ser Asn Pro Glu Ser Gln Asp Ile Lys
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65   70   75   80

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Pro Tyr Ile Asp Leu Ala Met Ile Asp Ile Lys Ser Met Asn Asp Glu
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Val Ile Glu Gly Phe Asn Ala Asp Leu Gln Ser Ile Gly Ala Ile Ala
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Gln Phe Ser Lys Ser Leu Thr Asn Leu Lys Arg Ile Asp Leu Leu Pro
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Tyr His Asn Tyr Gly Glu Asn Lys Tyr Gln Ala Ile Gly Arg Glu Tyr
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Ala Val Glu Leu Thr Val Lys Tyr Leu Lys Glu Ala Gly Leu Asp Val
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Val Tyr Tyr Asp Gly Val Glu Pro Asn Pro Lys Asp Val Asn Val Ile
65   70   75   80

Glu Gly Leu Lys Ile Phe Lys Glu Glu Asn Cys Asp Met Ile Val Thr
                  85   90   95

Val Gly Gly Gly Ser Ser His Asp Cys Gly Lys Gly Ile Gly Ile Ala
              100   105   110

Ala Thr His Glu Gly Asp Leu Tyr Asp Tyr Ala Gly Ile Glu Thr Leu
          115   120   125

Val Asn Pro Leu Pro Pro Ile Val Ala Val Asn Thr Thr Ala Gly Thr
        130   135   140

Ala Ser Glu Leu Thr Arg His Cys Val Leu Thr Asn Thr Lys Lys Lys
145   150   155   160

Ile Lys Phe Val Ile Val Ser Trp Arg Asn Leu Pro Leu Val Ser Ile
              165   170   175

Asn Asp Pro Met Leu Met Val Lys Lys Pro Ala Gly Leu Thr Ala Ala
          180   185   190

Thr Gly Met Asp Ala Leu Thr His Ala Ile Glu Ala Tyr Val Ser Lys
          195   200   205

Asp Ala Asn Pro Val Thr Asp Ala Ser Ala Ile Gln Ala Ile Lys Leu
    210   215   220

Ile Ser Gln Asn Leu Arg Gln Ala Val Ala Leu Gly Glu Asn Leu Glu
225   230   235   240

Ala Arg Glu Asn Met Ala Tyr Ala Ser Leu Leu Ala Gly Met Ala Phe
              245   250   255

Asn Asn Ala Asn Leu Gly Tyr Val His Ala Met Ala His Gln Leu Gly
          260   265   270

Gly Leu Tyr Asp Met Ala His Gly Val Ala Asn Ala Met Leu Leu Pro
        275   280   285

His Val Glu Arg Tyr Asn Met Leu Ser Asn Pro Lys Lys Phe Ala Asp
    290   295   300

Ile Ala Glu Phe Met Gly Glu Asn Ile Ser Gly Leu Ser Val Met Glu
305   310   315   320

Ala Ala Glu Lys Ala Ile Asn Ala Met Phe Arg Leu Ser Glu Asp Val

325   330   335
Gly Ile Pro Lys Ser Leu Lys Glu Met Gly Val Lys Gln Glu Asp Phe
            340   345   350

Glu His Met Ala Glu Leu Ala Leu Leu Asp Gly Asn Ala Phe Ser Asn
        355   360   365

Pro Arg Lys Gly Asn Ala Lys Asp Ile Ile Asn Ile Phe Lys Ala Ala
    370   375   380

Tyr
385

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<211> 35
<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
      Primer

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